

IN THE CLAIMS

Please cancel Claims 5, 10, and 11 and amend Claims 1, 3, 4, 7, 9, and 12 as shown below in clean-form. A marked-up version of the amended claims is attached hereto.

sub A' C1

1. (Amended) A semiconductor device comprising:
a semiconductor substrate, and
a circuit element using an insulating film formed on said semiconductor substrate,
said insulating film containing a silicon compound containing at least one element
selected from the group consisting of an oxygen and a nitrogen, and a metal compound
containing a metal other than silicon and at least one element selected from the group
consisting of an oxygen and a nitrogen, said insulating film further comprising nano-crystals,
a particle diameter of said nano-crystals being within a range of between 1 nm and 10 nm.

A2 sub B1

3. (Amended) The semiconductor device according to claim 1, wherein said nano-crystals are made of said metal compound.

4. (Amended) The semiconductor device according to claim 2, wherein said nano-crystals are made of an oxide, a nitride or an oxynitride of a metal other than silicon.

A3

7. (Amended) The semiconductor device according to claim 1, further comprising a silicon oxynitride film between said semiconductor substrate and said insulating film.

A4

9. (Amended) The semiconductor device according to claim 1, wherein said circuit element is a MOSFET, and said insulating film is a gate insulating film of said MOSFET.

A5

12. (Amended) The semiconductor device according to claim 1, wherein a part of a periphery of at least one of said nano-crystals being positioned within a distance of 0.7 nm from the interface of said insulating film.

Please insert new Claims 16-26 as follows:

A6 sub C2

16. (New) A semiconductor device comprising:
a semiconductor substrate;

source and drain regions formed apart from each other in said semiconductor substrate;

Could C2
a gate insulating film formed between said source and drain regions, said gate insulating film containing a silicon compound containing at least one element selected from the group consisting of an oxygen and a nitrogen, and a metal compound containing a metal other than silicon and at least one element selected from the group consisting of an oxygen and a nitrogen, said insulating film further comprising nano-crystals, a particle diameter of said nano-crystals being within a range of between 1 nm and 10 nm, and

could
a gate electrode formed on said gate insulating film.

sub B2
17. (New) The semiconductor device according to claim 16, wherein said silicon compound is a compound selected from the group consisting of a silicon oxide, a silicon nitride, and a silicon oxynitride.

18. (New) The semiconductor device according to claim 16, wherein said nano-crystals are made of said metal compound.

19. (New) The semiconductor device according to claim 17, wherein said nano-crystals are made of an oxide, a nitride or an oxynitride of a metal other than silicon.

20. (New) The semiconductor device according to claim 16, wherein said insulating film has a thickness within a range of between 3 nm and 20 nm.

21. (New) The semiconductor device according to claim 16, further comprising a silicon oxynitride film between said semiconductor substrate and said insulating film.

22. (New) The semiconductor device according to claim 16, wherein said metal other than silicon is at least one metal selected from the group consisting of Ti, Ta, Y, Al, Zr, La, Hf, Nb and elements of lanthanum series.

23. (New) The semiconductor device according to claim 16, wherein a part of a periphery of at least one of said nano-crystals being positioned within a distance of 0.7 nm from the interface of said insulating film.

24. (New) The semiconductor device according to claim 16, wherein said insulating film is a mixed film containing said silicon compound and said metal compound.

25. (New) The semiconductor device according to claim 16, wherein said gate electrode comprises polycrystalline silicon layer, a SiGe layer, or a metal layer.

26. (New) The semiconductor device according to claim 16, further comprising silicide layers on said source drain regions.

IN THE DRAWINGS

Please amend Figures 1, 2A, and 2B as indicated on the enclosed drawing sheet. A letter requesting approval of drawing changes in red is attached hereto.

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-4, 6-9, and 12-26 are pending in this case, Claims 5, 10-11 having been canceled, Claims 1, 3-4, 7, 9, 12 having been amended, and new Claims 16-26 having been added.

In the outstanding Office Action, the specification and the drawings were objected to for having minor informalities; Claims 3-5, 7, and 9-12 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite; Claims 1-4, 7-11, and 13 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,291,867 to Wallace; and Claims 5 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wallace.